

**Remarks:**

In the Office Action mailed on March 30, 2010, the Examiner rejected Claims 1 – 7, 10 – 13, 16 – 35, 37, and 40 – 49. The Examiner objected to Claims 16 – 26, 39 – 42, and 45 – 48 were objected to but indicated as allowable if rewritten in independent form. Claims 8, 9, 14, 15, 36, and 38 were previously cancelled. Claims 2, 32, 33, 35, 37, and 49 are cancelled herein. Claims 1, 3, 4, 10, 11, 12, 16, 17, 19, 22, 25, 30, 31, and 34 are amended herein. New claims 50 through 55 are added herein. Claims 1, 3 – 7, 10 – 13, 16 – 31, 34, 39<sup>1</sup> – 48, and 50 – 55 are pending in the application.

**Claims**

Allowable Subject Matter

The applicants thank the Examiner for indicating allowable subject matter for Claims 16 – 26, 39 – 42, and 45 – 48. Applicants have made other amendments herein that Applicants posit and argue below render the independent claims patentable. Accordingly, Applicants decline the opportunity to rewrite the claims that the Examiner indicated as allowable into independent form at this time.

That said, new Claim 54 combines Claim 49 (the preamble) and the bodies of Claims 1 and 16. Applicants posit that Claim 54 should be allowable for at least the reasons for which Claim 16 was previously considered allowable. Accordingly, Applicants respectfully request consideration of new Claim 54 and its dependent claim, Claim 55, and their allowance.

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<sup>1</sup> In the Office Action Summary, Disposition of Claims, Item 4, Claim 39 was not included in the list of pending claims. This was also indicated on Page 2 line 3 of the Office Action, Detailed Action. That is inconsistent with Item 7 which indicates Claim 39 as objected to. Furthermore, the undersigned cannot find that Claim 39 was previously cancelled.

### **35 USC 112**

Claims 32, 33, and 37 were rejected under 35 USC 112. These claims have been cancelled herein. Accordingly, the rejection is moot.

### **35 USC 103**

Claims 1 – 2, 10, 12 – 13, 31, 35, 37, 43 and 49 were rejected under 35 USC 103 as unpatentable over the combination of Nitta (U.S. Pat. No. 4,851,654) in view of Gainsboro (U.S. Publ. No. 2002/0071537). Applicants have amended the independent claims 1 and 31. To the extent the Examiner believes the rejection applies to the claims as amended, applicants traverse the rejection.

Claim 1 recites “an integrated circuit having a biometric voice sensor integrated into a portion of the integrated circuit.” Nitta fails to teach or suggest that element. The Examiner argues that “a biometric voice sensor is inherent in Nitta, because Nitta discloses a microphone (ref # 9 fig. 1A sheet 1).” Office Action, Page 4, Lines 1 – 3. Applicants respectfully disagree. Rather Nitta’s disclosure of a separate microphone is clearly a teaching away of having a biometric voice sensor integrated into a portion of the integrated circuit. From that, it is inherent that the microphone of Nitta is what senses a user’s speech. Thus, it is explicit in Nitta that there is no need for a voice sensor integrated into a portion of the integrated circuit.

Claim 1 further recites “a voice processing circuit integrated into a portion of the integrated circuit ... to process the signal to detect characteristics of the at last one user’s voice and to use a voice recognition technique to compare the detect voice characteristics with information stored in the memory...” Nitta does not teach or suggest that element. The Examiner argues that a voice processing circuit integrated into the IC is inherent to Nitta. Office Action, Page 4, Lines 8 – 10, *citing*, Col. 2, lines 59 – 64 and Col. 4, Lines 40 - 66. Applicants respectfully disagree. Nitta teaches

in the cited passages that the microphone receives the speech and transduces it into speech signals. These signals are then modulated into RF signals and transmitted by being radiated from an antenna to the exterior of the card. When a user speaks a command, it is thus reduced to RF signals and transmitted to a gate controller for processing. Thus, not only is it *inherent* but it is explicit that Nitta teaches that voice processing is performed outside of the card. Transforming sounds emitted into a microphone into RF signals cannot by any stretch of the imagination or even the broadest imaginable reading of the claim language be considered voice processing. The RF modulation circuit does not know whether sounds uttered at the microphone is voice or random sounds. It would process those sounds indiscriminately and produce RF signals. Thus, no voice processing is performed on the card and hence no voice processing circuit is integrated into a portion of the card.

The integration of the voice sensor and voice processing onto the integrated circuit is very important. Integrated circuit cards are frequently used as security devices. Of course, any time that a piece of data is transmitted over insecure channels, that data is suspect to being misappropriated. For example, if the spoken voice is spoken into a microphone and transmitted to a CPU for processing, the voice could be intercepted and replaced between the microphone and CPU. Thus, the CPU cannot trust that the spoken voice is what was spoken into the microphone. Therefore, the integration of the voice sensor and the voice processor onto the integrated circuit provides significant security advantages that cannot be achieved by the architecture of Nitta.

Claim 1 further recites, as amended, that “a memory for storing information indicative of at least one user’s voice characteristics.” This limitation was previously found in Claim 2. With respect to Claim 2, the Examiner argued that Nitta disclosed the aforementioned limitation at Col.

6, Lines 31 – 35. Office Action, Page 4, Lines 16 – 17. Applicants respectfully disagree.

The information indicative of at least one user's voice characteristics is information useful to compare the voice characteristics detected by the biometric voice sensor. All Nitta is doing in Col. 6, Lines 31 – 35 is buffering of the signals corresponding the sounds received on the microphone for transmission to the outer device. That is not storing of voice characteristics of a user. It is storing of digital signals corresponding to microphone detected sound.

Gainsboro does not teach anything about integrated circuit cards. It is therefore clear that Gainsboro does not teach or suggest the elements missing from Nitta.

Thus, the combination of Nitta and Gainsboro fails to include several of the elements of Claim 1.

Claims 4 and 33 stand rejected under the combination of Nitta, Gainsboro and Takahashi (U.S. Pat. No. 4,961,229). Takahashi fails to teach or suggest the elements of Claim 1 argued herein above. In fact, Takahashi clearly teaches away from the integration of the voice sensor and voice processing onto the integrated circuit of the card. Figure 1 of Takahashi shows the speech recognition terminal as having a card reader. Thus, speech recognition is performed on the terminal and not on the card. Furthermore, Takahashi shows the microphone 3 to be part of the terminal and not of the card. Accordingly, it is clear that Takahashi, like Nitta and Gainsboro fails to teach or suggest the above-argued limitations of Claim 1, and that the combination of Nitta, Gainsboro and Takahashi would not include these limitations.

Claims 3, 11, 28 – 30 were rejected over the combination of Nitta, Gainsboro and Kennedy (U.S. Pat. No., 6,084,967). Kennedy teaches the use of a microphone of a telephone for inputting a user's voice and the circuitry of

the telephone to compare spoken utterances with a stored feature vector. Kennedy, Col. 2, Lines 61 – 64. Thus, Kennedy also teaches away from the limitations of integrating the voice sensor and voice processing circuit onto the integrated circuit. Accordingly, it is clear that Kennedy, like Nitta and Gainsboro fails to teach or suggest the above-argued limitations of Claim 1, and that the combination of Nitta, Gainsboro and Kennedy would not include these limitations.

Claims 27, 31, and 44 stand rejected over the combination of Nitta, Gainsboro and Maes (U.S. Pat. No. 6,411,933). Consideration of Maes Figure 6 makes it abundantly clear that Maes does not teach or suggest the integration of a voice sensor into an integrated circuit. Maes discloses a device that senses a user's speech through sensors on lips, in front of mouth, cheek, larynx, and chest. These are large physical devices and clearly not integrated into an integrated circuit. Maes does not suggest the use of an integrated circuit card. Therefore, Maes does not and cannot teach or suggest integrating a voice processor onto the integrated circuit of the integrated circuit card. Accordingly, it is clear that Maes, like Nitta and Gainsboro fails to teach or suggest the above-argued limitations of Claim 1, and that the combination of Nitta, Gainsboro and Maes would not include these limitations.

For the foregoing reasons, Claim 1 is patentable over the various proffered combinations of prior art references and should be allowed. Claims 31 and 54 recite analogous limitations and are patentable over the combination of Nitta, Gainsboro, and the other references, at least, for the reasons given in support of Claim 1. As noted above Claim 54 also recites that the biometric voice sensor comprises “a pressure sensor including a membrane that responds to a voice pressure wave.” Applicants posit that Claim 54 is patentable over the prior art for this additional reason.

The dependent claims depend from Claims 1, 31, and 54, respectively. The dependent claims inherit all the limitations of the independent claims, provide further unique combinations, and are patentable over the prior art, at least, for the reasons given in support of the independent claims and by virtue of such further combinations.

### **CONCLUSION**

It is submitted that all of the claims now in the application are allowable. Applicants respectfully request consideration of the application and claims and its early allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephonic interview, Applicants invite the Examiner to contact the undersigned at the number given below.

Applicants respectfully request that a timely Notice of Allowance be issued in this application.

Respectfully submitted,

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